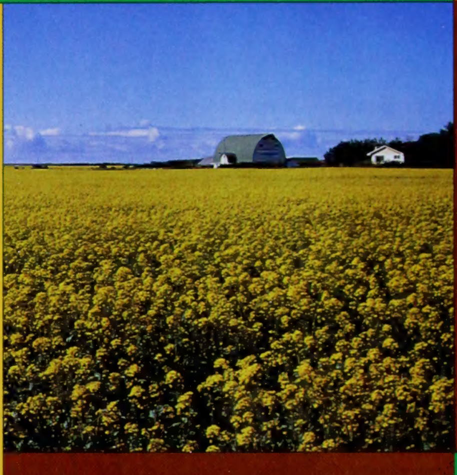
Alberta NORTH



- Naturalist of Slave Lake
- The Fur Trade in the West
- Finding Treasure in the Oil Sands
- Story Page

Vol. 2, No. 2 Spring, 1989

Dear Reader:

This issue of *Alberta North* completes two full years of publication for our mini-magazine. I am now asking for your help is assessing our efforts. Please assist us by taking a minute or two to fill out the evaluation sheet included with your mail-out. You can return it postage-free.

In the past, I have also asked you to make story suggestions, and quite a few readers have done so. In this issue, the story about the pioneer naturalist in Slave Lake (page 3) is a direct result of a reader's suggestion. I appreciate that kind of feedback very much. Certainly, our staff would never have known about Reinholt Eben-Ebenau or have been able to write about him if a reader had not taken the time to bring him to our attention.

The Oil Sands story on page 6 fulfills a promise made in the very first issue when we said we would write about the way the oil is taken from the land. I hope you enjoy learning about this high-tech process.

As *Alberta North* moves into its third year of publication, it looks as if we will never run out of things to say about Alberta's north. This certainly doesn't surprise me. I have been saying for a long time that the north is exciting, interesting and just the right place to be.

Chairman
Northern Alberta Development Council

Provincial Archives of Alberta: Pollard Collection P3490

A facsimile of a Hudson's Bay Trading Post.

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Overland to the Pacific: Alexander Mackenzie

Provincial Archives of Alberta: Archives Collection A1967

Alexander Mackenzie was 29 years old when he became the first white man to cross the North American continent and see the Pacific Ocean. The year was 1793. It was to be a full 13 years more before the Americans, Lewis and Clark, made their famous trek and became instant heroes.

Although Mackenzie was not adulated by Canadians or by the Company he worked for, he became a hero too. He was honored in Europe and was the first fur trader to be knighted by George III of England.

Mackenzie was said to be hot-tempered and arrogant as well as very stubborn. This makes sense. A stubborn man who would keep on trying was exactly what the doctor ordered because Mackenzie did not reach his goal on the first attempt. His first journey to find the Pacific Ocean actually led him down the river named after him all the way to the Beaufort Sea.

On his second try, he reached the Pacific but it meant paddling and walking 2,811 miles—from Fort Chipewyan to King Island in British Columbia and then back to Fort Chipewyan again.

Mackenzie had other dreams. They were ideas that never materialized. He wanted the North-West Company (NWC) and the Hudson's Bay Company (HBC) to merge into one big trading company that would use his new-found route for trading with the Orient.

He was one of the few who realized that if this did not happen, American traders would be the ones to profit. Although the dreamed-of merger did eventually occur, the route Mackenzie found to the Pacific Ocean was never put to the use he envisioned.

Alexander Mackenzie had at least two children while he lived in Canada. One of them, Andrew, who was also in the fur trade, died in Fort Vermilion in northern Alberta in 1809. When Alexander returned to Scotland, he married a 14-year old cousin.

Alexander died in 1820 at the age of 56, in Scotland where he had been born. But he was a true Canadian. Not only did he become our most famous explorer, but he had a wonderful vision of a Canada that stretched from one ocean to the other.

You might want to visit the cairn near Peace River that commemorates the fact that he wintered there before setting out on his journey of discovery.

CANADIANA
JUN 13 1989

Slave Lake's Pioneer Naturalist: Reinholt Eben-Ebenau

On the north shore of Lesser Slave Lake, about 10 miles from town, in a log cabin he built himself, lives an internationally recognized naturalist, Reinholt Eben-Ebenau. Born in Germany in 1905, he has lived on Slave Lake since 1930.

Arriving in Canada in 1929, he worked in the east, then "rode the rods" west. He cheerfully tells people he was a "bum."

His career as a hobo was short-lived. He homesteaded at Slave Lake and, every fall, guided and outfitted hunters into the mountains west of Grande Prairie.

He says he personally gave up hunting years ago and that even before, he killed only for meat.

Last year, he was recognized by Alberta's Department of Forestry, Lands and Wildlife, Fish and Wildlife Branch. He was inducted into the Order of the Bighorn—a select group who have crusaded for wildlife conservation.

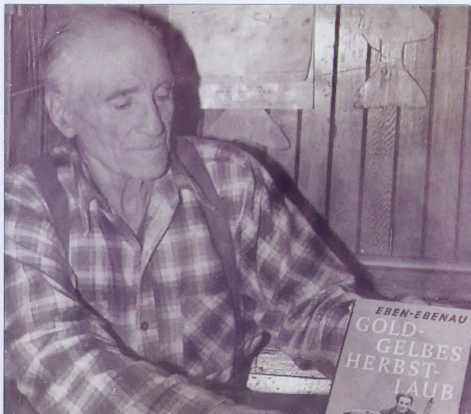
Eben-Ebenau wrote a book about wildlife behavior after years of observing birds and animals in their northern habitat. Unfortunately, you may not be able to read this book since he wrote it in German.

If you visited him, you would be interested in the little museum he established where he exhibits a stuffed grizzly bear, a collection of trophy antlers, and other wildlife artifacts. There is a display of moose teeth with which he demonstrates how to tell the age of a moose.

An ardent conservationist today, Eben-Ebenau has strong opinions on poaching and on airplane hunting. He said: "If I would get a poacher, I would take everything away from him—not just the animals, but his guns, everything."

But he believes it is impossible to control illegal hunting in a land as vast and unpopulated as northern Alberta. He says even twice as many game wardens as we have would find the task too big.

Although this fascinating man is 84 years old, he is busy and active. He has eight grandchildren, five of whom live near him. He keeps up-to-date with everything going on in the world—from modern music to politics. He told *Alberta North* that he is a "strong critic" who has an opinion on "everything." It's probably what keeps him young.



Jerold LeBlanc photo

The Fur Trade and The Traders

Without the fur trade, there would probably have been no Canada. The only thing that kept United States adventurers and settlers out of the northern half of the continent was the presence of fur traders who were loyal to Britain and who defended their territory with zeal and determination. The famous western explorers we have studied were fur traders trying to expand their trading area and find easier ways to ship pelts to market.

The North-West Company

Because the Hudson's Bay Company (HBC) had a monopoly over all lands with waters draining into Hudson Bay, other traders had to go beyond that territory to find trading grounds. Many did so. Finally, these people bonded together into the North-West Company (NWC) head-quartered in Montreal. They became fierce rivals of the HBC.

NWC explorers pushed into what is now Saskatchewan, Alberta, B.C. and the far north. A Nor'Wester, Peter Pond, built the first white man's house in Alberta; another, Alexander Mackenzie, was the first white to go overland to the Pacific Ocean; still another, David Thompson, made the first proper maps of North America.

The Nor'Westers operated by approaching the Indians on their home territory and making them business colleagues of a sort. This is a key reason Canada escaped the kind of Indian wars the U.S. west endured.

The NWC had to transport its furs more than 3000 miles to Montreal, then bring trading goods back over the same tortuous water route. It took about two years from the time furs were bought from the Indians until they were sold in Europe. For economic reasons, the NWC finally merged with the HBC.

The Hudson's Bay Company

The HBC, here before the NWC, was formed in 1670 in England and given control over 1.5 million square miles of North America.

Except for Henry Kelsey's journey into the prairies, the HBC did little exploration until pressured by the Nor'Westers. More interested in profit than exploration, HBC men built trading forts, then waited for the Indians to bring in the furs. These furs went by York Boat to Fort York (York Factory) on Hudson Bay and then were sent by Company ships to England.

The HBC's main advantage was access to Hudson Bay. Not forced to travel the long canoe route to Montreal, the Bay furs reached London in about six months and were sold within a year of being taken in trade. The HBC also had better financial backing and did not operate on a profit-sharing basis as did the NWC. So, when the two companies joined in 1821, the Bay's owners got the best of the deal.

If this seems unfair, it must be remembered that it was the HBC which initiated the fur trade in an effort to supply Europe with beaver fur for hats.

Early HBC men left more than 68 tons of logs, records, diaries, letters, etc. These are the chief source of information today regarding the exciting time when men pushed back the Canadian frontier in their quest for fur.

Who were these traders?

Probably, you have a colorful picture in your mind of a dashing voyageur. You are only partly right. The NWC voyageurs were usually uneducated, uncouth, rowdy French adventurers from Lower Canada (Quebec), but they were also strong, loyal, diligent, brave, proud canoeists. One author has compared them to galley slaves for they paddled up to 18 hours a day, carried canoes and heavy loads over long portages, were paid poorly, had almost no chance for promotion, and usually died young from disease, injury or exposure.

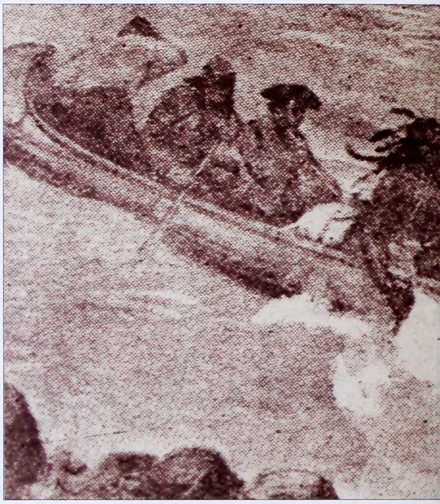
Still, they felt themselves superior to HBC men who were strictly accountable to their London officers, were viewed as "servants" by head office, and lacked freedom.

The men of both companies led lonely, unprivileged lives. Isolated from their families and friends, they usually married native women according to the Indian way. Their descendants are today's Metis.

The west owes much to those traders of yore and Canada owes its very existence to them.

Provincial Archives of Alberta: Ernest Brown Collection B948

An old painting shows Indians arriving at a Hudson's Bay T



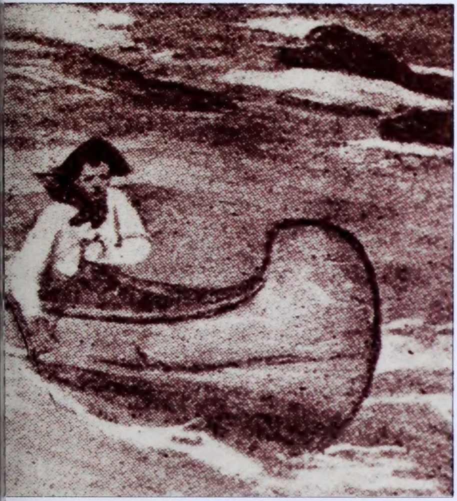
Provincial Archives of Alberta: Ernest Brown Collection B66646

Another painting shows voyageurs canoeing on a fast-movi

Provincial Archives of Alberta: Ernest Brown Collection B943

La Verandrye and Indians portaging. Also from a painting.

Post.



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Canada's First Highways

When we speak of the fur trade in Canada, we are not talking about fur trading today. Nor do we refer to travel conditions as they are now. The fur trade era took place well before railroads, highways and airports.

In those days, Canada's highways were rivers and lakes; the vehicles were canoes and York Boats. Even today, you can canoe from nearly any city in Canada all the way to the Atlantic, Pacific or Arctic Oceans.

Why do you suppose this is?

There are two reasons. First, it is because Canada has so much water. Did you know we have half of the whole world's total supply of fresh water? It is also because our rivers and lakes are closely connected as well as entirely navigable.

Of course there were dozens of carrying places or portages to deal with but there were only two long portages. These were the Grand Portage out of Lake Superior (nine miles) and the famous 12-mile Methye Portage in Saskatchewan.

But, it wasn't easy going. Even a short carry took a long time. The average portaging speed was only about three miles an hour. This was because the voyageur had to make three trips back and forth over the portage, carrying goods and going back for new loads.

Sometimes, the boatmen avoided impassible water by trekking up the shore while towing the still floating canoes by way of ropes. This was called "tracking."

Fur Trade Routes

The three major lakes which acted as hubs for the fur trade were Lake Superior, Lake Winnipeg and Lake Athabasca. A number of rivers fan out from these lakes and, up these rivers, the voyageurs brought the furs.

Not every river the fur traders traveled can be called a fur route. Such a name is given only to a travel network involving more than one river and to one that was used again and again. Some historians and geographers believe that a true fur route must also connect to salt water.

There were two main fur trade routes: 1) The North-West Company's route to Fort Chipewyan from Lachine, Quebec; 2) the Hudson's Bay Company route to York Factory on Hudson Bay.

As well, there were several different routes tried over the Rockies from both Fort Edmonton and Fort Chipewyan. There were also "connecting" routes between the major ones.

These routes began to be used near the end of the 17th Century. Before that, there was "river mouth" trading. That is, the Indians themselves brought their pelts to trading posts located at the mouths of rivers near seaports.

But, when Henry Kelsey and the Sieur de La Verandrye ventured into the west, it was necessary to work out a way to take the furs to the sea.

From Lachine to Fort Chipewyan

The most famous fur route of all began at Lachine near Montreal. The Nor'Westers paddled, portaged and tracked all across Ontario, Manitoba and Saskatchewan. When they reached what is now Alberta, they were on the Clearwater River which joins the Athabasca just above Fort McMurray. The Athabasca took them to Fort Chipewyan.

Alternative ways over this basic route were tried. For example, the Athabasca River could be reached via the Beaver and La Biche Rivers. This was a somewhat well-traveled, if difficult, route although it was probably not used after 1824.

In addition, fur traders along the Slave, Mackenzie and Peace traveled those rivers into Fort Chipewyan.

What a long haul it was for those intrepid voyageurs of old even though northerners took their furs only as far as Fort William (Thunder Bay) on Lake Superior. A whole eastern section of canoeists carried the furs to Montreal. This was because it was impossible to go 3000 miles and back in the short 5-month ice-free season the waters allowed.

How they must have paddled! How different from the leisurely way we canoe for pleasure today!

Many of the old voyageur canoe routes can still be traveled. You might want to read Eric W. Morse's book, *Fur Trade Canoe Routes of Canada/Then and Now.* Morse has personally paddled over nearly all the routes that have not been lost to dams and hydro projects.

How Oil is Rescued from the Land

Alberta is the most oil-rich province in Canada and a lot of those riches are in the North's famous bituminous sands. The largest known oil sands deposit is the Athabasca field near Fort McMurray where there are bitumen reserves of about 209 billion cubic metres.

Some bituminous sands deposits are near enough to the surface to be reclaimed through surface-mining, but others are deeply buried beneath sand, gravel and shale (called overburden).

The deeply buried deposits cannot be mined in an ordinary way. The oil must be thinned before bringing it to the surface. This is called *in situ* recovery. *In situ* is Latin for "in its original place" and means that the thinning process occurs where the oil is found rather than in a processing plant above ground.

Alberta Government Photo

Above: Syncrude's massive dragline scoops up the oil-rich sand.
Bottom left: This bucketwheel at Suncor's Fort McMurray operation looks like a ferris wheel from outer space

Mining the Oil Sands

There is nothing mysterious about mining the oil sands. The overburden is lifted off; the oil sand is taken from the earth; the bitumen is "boiled" out of the sand with hot water.

There is a problem in the procedure. It is expensive to rescue this kind of oil so enormous quantities of sand must be mined to make the process worthwhile. For that reason, the deposits being worked must be rich in bitumen.

The first step, once the site is found, is to clear the trees away. Tree removal reveals water-saturated peat (muskeg) which must be drained. Under the muskeg lies the overburden.

Alberta Government Photo

Once the overburden is shoveled away, the oil sand can be mined. This is done by lifting it out of the ground mechanically, often with immense bucketwheel excavating machines. The bucketwheels at the Fort McMurray Suncor Plant are half-a-city-block long and 10 storeys high. They can move 43 million tonnes a year.

Syncrude uses draglines. These, too, are vast. When extended, such a dragline is 25 storeys high. The boom itself is as long as a football field. The four Syncrude draglines can move 93 million tonnes a year by dropping huge hanging buckets into the sand then dragging them back. The buckets scoop up the oil sand as this happens.

Both methods of mining then use conveyor systems to carry the ore to the plant where the oil is extracted from the sand.

The extraction method used is basically the same at all plants. Hot water, steam and caustic are mixed with the oil sand. This mixture is tumbled until the bitumen floats off. Once the bitumen is separated from the sand, it is centrifuged. This means the water is separated from the bitumen through a spinning process.

In Situ Recovery

The bitumen that saturates the oil sands is thick and tar-like. Even at room temperature, it is similar in consistency to the molasses your mother uses for gingerbread. If you try to pour chilled molasses, you will find you do not have the patience to wait for it to begin to flow.

Clearly, oil that is like molasses is hard to pump to the surface so several thinning techniques are used. These involve heat or solvent to change the bitumen's condition so it will be thin enough to flow and separate from the sand.

Then, steam or air is injected to force the oil to move toward a collection point where it is pumped to the surface. Sometimes, steam is combined with fire to increase the pressure on the oil.

The method of applying both heat and pressure at the several *in situ* plants differs because the viscosity (ability to flow) of the bitumen varies from site to site.

You may hear of "huff-and-puff" or "steam injection" or "forward combustion and water flooding." They are all thermal recovery techniques which use steam and/or fire to get the bitumen moving.

In a future issue of *Alberta North* we will talk about the way the oil is upgraded so it can be used.

Alberta Government Photo

How Sara Solved the Summer Blues

"When you live in a city," Sara said, "there are thousands of opportunities to get summer jobs. But there's nothing at all in this place."

Sara's mother smiled. "It's not that there are no jobs, Sara. It's just that you're a little young to work as a waitress or a cashier."

"The only thing I know how to do is babysit," Sara grumbled.

She went outside and slammed the door. Then she wandered downtown. She passed a little knot of younger children leaning on a fence looking bored and she remembered complaining that there was nothing to do when she was that age.

Across the street, Jason Borrowman scuffed along, kicking a stone in front of him. He was her own age—14—too old to play in a sandbox and too young to get a summer job.

"Want to play catch?" she called.

"Can't. Have to weed Mrs. Graham's garden."

"Is that the only job you can find?"

He cast a dirty look in her direction.

"Even babysitting's better than that," she told him.

"Most people don't ask boys to sit," Jason said, crossing the street.

They came to an intersection and turned the corner. Three little boys sat on the curb. One bounced a ball. The other two just sat. In some dark place in her mind, Sara realized that their little northern town of Rycroft was full of kids with nothing to do.

They walked on. They reached the Graham house and Sara strolled on alone. When she came to the community hall, she sat on the steps and watched a pileated woodpecker in the poplar trees. A thought nagged at her—an idea, or a plan, or something like that.

After a while, she went back to find Jason. He was on his knees in the vegetable garden. A dirty streak had appeared on his cheek, and his forehead glistened with sweat.

"Are you having fun?" Sara asked.

He didn't bother to look up. "Drop dead!" he snarled.

Sara watched him for another moment, pushing the toe of her white sneaker into the dirt at the edge of the garden and forming a little indentation there.

Then she said: "Why don't we go into business for ourselves?"

He stared at her as if she had gone crazy. She went on. "Well, no one will hire us, but maybe we could think of a service to offer."

"Like what? Digging weeds or changing diapers?"

"No. Something better than that. The little kids in town have nothing to do except play—only sometimes they can't think of anything to play. What if we started a day camp and charged for it? The mothers would like it because we would be sort of babysitting. But the kids would like it too because we could organize it with games and plays and contests and stuff."

Jason sat back on his heels with a thoughtful look on his face. "Hey! I think you just came up with a winner."

It was a winner. Sara and Jason made more money that summer than their older sisters did working at the cafe.

Interesting Things About Interesting Things – A Trivia Quiz

1. What town is located at mile zero on the Mackenzie Highway?
2. What are three places in northern Alberta with names that remind us of what is in the sky?
3. What does *in situ* mean?
4. Where could you take part in a midnight golf tournament?
5. What animal was the chief attraction for the fur trader?
6. Are there any places in northern Alberta with that animal in the name?
7. What places are those?
8. What wildlife is Wood Buffalo National Park famous for?
9. Why must we heat the oil sand in order to extract the oil?
10. In what country was Sir Alexander Mackenzie born?
11. Where did he die?
12. To what galaxy does earth belong?
13. How many constellations do we know of?
14. Why did the voyageurs portage their canoes?
15. Which city is larger—Grande Prairie or Fort McMurray?

About This Page

This page – the inside back cover – of *Alberta North* is the readers' page.

We will be happy to print stories, poems, drawings, puzzles, photography, and so on, submitted by our readers. Just remember that what you submit must be original since there are laws that protect other people's work.

Submit your work along with your name, address, grade and school to:

The Editor, *Alberta North*, The Northern Development Branch, 2nd Floor, Provincial Building, 9621 - 96 Avenue, Peace River, Alberta T0H 2X0.

The best submissions will be published and all others will be returned.

Let's Get to Know the Sky

Star-gazing is an easy, inexpensive hobby that can be pursued anywhere the sky is clear, either alone or with friends. And, once you become a stargazer, you will never be bored again. The north is particularly good for viewing the heavens.

Most people think they need a telescope to discover the heavens. Not so. With the naked eye, you can see planets, stars, the moon, the aurora, the milky way, meteors, and much more.

After all, the telescope was invented less than 400 years ago even though astronomy is the oldest science. Ancient astronomers charted all the main heavenly bodies more than a thousand years before that.

How do you start this hobby?

1. You will need a constellation guide book. The constellations are the patterns in the sky and you will have to know them.
2. Learn what the constellations look like by studying your book.
3. It is a good idea to learn only one or two at a time and identify these in the sky before learning the next couple.
4. Find an open spot where town lights don't cause "light pollution." Light makes stars fade out.
5. Lie on your back and watch the night-time sky. Try to find the constellations you know.
6. Keep a record of what you have found, where you saw it in the heavens, and when you spotted it—both date and time of night.
7. Read about the stars. Learn as much as you can about them.

A few facts about the heavens

- There are 88 constellations although some are not visible in the northern hemisphere.
- There are more than 150 billion stars in our galaxy but only about 5000 can be seen with the naked eye.
- The stars and planets move, and are visible in different parts of the sky according to the time of night and the season.
- Only the North Star—Polaris—never changes. (It actually does move, but so slowly that only sophisticated instruments can measure the motion.)
- Skies are blacker in summer than in winter because ice crystals are no longer floating and scattering light. Also, snow on the ground tends to scatter light.
- A *galaxy* is a swarm of stars. Our solar system is part of the Milky Way galaxy.
- The *solar system* is the sun and all the things that orbit around it.
- The place in the sky directly above you is called the *Zenith.*
- *Nebulae* are big masses of glowing gas and can be seen with the naked eye.
- A *nova* is an exploding star that shines for a few weeks and can be seen with the naked eye.

Have fun discovering the heavens. One day you might want to buy a telescope or even build one, but for now, find what you can find, just by looking.

A "Star Trail" – the motion of the stars caught by a camera but not by the naked eye. Take such a picture yourself. Put a 35mm camera with an adjustable shutter speed on a solid surface then move the shutter speed to "B." With a thick elastic band placed around the camera near the shutter release, aim the camera taking care to hold the shutter open with the elastic. Then close the shutter by removing the elastic.

Edmonton Space Sciences Centre

Who's Who In The Heavens

The first astronomers were ancient Greeks and Romans who did careful work, much of which is valid today. They also named the planets and constellations they could see. We have retained many of the Roman designations for planets and continue the tradition by giving new astral discoveries Greek or Roman names.

The mightiest Roman god was *Jupiter*, king of the gods, so the biggest planet, the one with four large moons, was named for this god.

The Romans thought the god of speed, *Mercury*, ran through the sky. Since the planet, Mercury, appears and disappears suddenly, it was named after this god.

Mars is red-colored and reminded the ancients of blood. They named it after the Roman god of war.

Venus was goddess of beauty and love. When the Romans spotted a planet they thought especially bright and beautiful, they named it Venus.

Neptune's namesake is the Roman god of the sea; *Saturn* was the Roman god of agriculture; *Pluto* was the Roman god of death and darkness.

Uranus, is the only one named for a Greek god—the god who personified the sky.

And *earth*, is not named for a god at all. The name comes from an Old English word, 'eorthe.'

Answers to
Interesting Things About Interesting Things

1. Grimshaw.
2. Sunset House, North Star, Rainbow Lake, Bluesky, Moonshine Lake.
3. In its original place.
4. High Level.
5. Beaver.
6. Yes.
7. Beaverlodge, Beaver Ranch Creek, Beaver Indian River, Beaverdam, Beaver Crossing, Beaver River, Beaver Lake.
8. Whooping Crane, Wood Bison.
9. So the oil will be thin enough to flow.
10. Scotland.
11. Scotland.
12. The Milky Way.
13. 88.
14. Because there were places where the rivers were unsafe for canoe travel—rapids, waterfalls, rocks, etc.
15. Grande Prairie.